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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,645	07/27/2006	Andrea Scarpa	NL040019US1	2711
65913	7550	10/20/2008		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER HOLLINGTON, JERMELE M	
			ART UNIT 2829	PAPER NUMBER
			NOTIFICATION DATE 10/20/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

# Office Action Summary

## Application No.

10/587,645

## Applicant(s)

SCARPA ET AL.

## Examiner

Jermele M. Hollington

## Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Election/Restrictions***

2. Newly submitted claims 14-19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims present limitations that were not examiner prior to the first action such as a plurality of test points connected in parallel.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, heater [claims 6-7] must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Munari et al ("A Test Pattern for Three-Dimensional Latch-up Analysis").

Regarding claims 1 and 8, Munari et al disclose a test module for testing the susceptibility of an integrated circuit design to latch-up, the test module comprising a plurality of test blocks (source-measure units), connected in parallel [see Figs. 2, 3, 6 and 7], each test block including an injector block (injecting device) for applying a stress current or voltage to the respective test block (see page 106, column 2, last paragraph – page 107, column 1, 1<sup>st</sup> paragraph), and a plurality of sensor blocks (parasitic devices) located at successively increasing

distances from the respective injector block (injecting device), each sensor block (parasitic devices) including a PNPN latch-up test structure (see page 104, 1<sup>st</sup> column, 2<sup>nd</sup> & 3<sup>rd</sup> paragraph and page 106, 2<sup>nd</sup> column, 1<sup>st</sup> paragraph).

Regarding claim 2, Munari et al disclose each test block (source-measure units) is connected to a bondpad, said stress current or voltage being applied to said injector via said bondpad (see entire page 107 for details).

Regarding claim 3, Munari et al disclose said injector blocks (injecting device) are connected between first and second supply lines (see page 104, 2<sup>nd</sup> column – page 105, 1<sup>st</sup> column).

Regarding claim 4, Munari et al disclose contacts of said sensor blocks are connected between third and fourth supply lines, different from said first and second supply lines (see page 106, 2<sup>nd</sup> column – page 107, 1<sup>st</sup> column).

Regarding claim 5, Munari et al disclose each PNPN latch-up structure comprises an N+ and a P+ hot-active (see page 106 column 2, 1<sup>st</sup> paragraph), which hot-actives are connected to respective probe sensor lines (see page 106 column 2, 1<sup>st</sup> paragraph).

Regarding claim 6, Munari et al disclose heating means (rings) is provided in respect of said PNPN latch-up test structures (see page 105, column 2, 1<sup>st</sup> paragraph).

Regarding claim 7, Munari et al disclose said heating means (rings) comprise polysilicon rings (rings) located around respective PNPN latch-up test structures (see page 105, column 2, 1<sup>st</sup> paragraph).

Regarding claim 9, Munari et al disclose disconnecting said sensor blocks (parasitic devices) during application of said stress current or voltage to one or more of said injector blocks

(injecting devices), and obtaining current measurements at said injector blocks (injecting devices) to determine the susceptibility thereof to latch-up (see page 105-page 107 for details).

Regarding claim 10, Munari et al disclose an injector block (injecting device) or a sensor block (parasitic devices) is determined to be susceptible to latch-up if a current measurement thereat exceeds a predetermined threshold (see entire page 103).

Regarding claim 11, Munari et al disclose sequential current measurements are obtained at each PNP latch-up test structure of a sensor block (see page 106, 2<sup>nd</sup> column – page 107, 1<sup>st</sup> column).

Regarding claim 12, Munari et al disclose each injector block (injecting device) and each sensor block (parasitic devices) can be independently biased.

Regarding claim 13, Munari et al disclose each PNP latch-up test structure can be biased independently (see page 106 column 2, 1<sup>st</sup> paragraph).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:00 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermele M. Hollington/  
Primary Examiner  
Art Unit 2829

/J. M. H./  
October 14, 2008